

## THREE-DIMENSIONAL VIDEO BROADCASTING SYSTEM

## ABSTRACT

A 3D video broadcasting system includes a video stream  
5 compressor used to generate a base stream and an  
enhancement stream using a base stream encoder and an  
enhancement stream encoder, respectively. The base stream  
includes either right view images or left view images, and  
is encoded and decoded independently of the enhancement  
10 stream using MPEG-2 standard. The enhancement stream  
includes the view images not included in the base stream,  
and is dependent upon the base stream for encoding and  
decoding. The base stream encoder provides I-pictures to  
the enhancement stream encoder for disparity estimation and  
15 compensation during bi-directional encoding and decoding of  
the enhancement stream. In addition, for bi-directional  
encoding and decoding, decoded enhancement stream pictures  
are used for motion estimation and compensation. The video  
stream compressor can be used to compress right and left  
20 view video streams from two video cameras or from a single  
video camera generated using a 3D lens system.